



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,019	05/25/2006	Kouji Nishioka	P30024	1772
7055 7590 02/02/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER				
GRAMLING, SEAN P				
ART UNIT		PAPER NUMBER		
2875				
NOTIFICATION DATE		DELIVERY MODE		
02/02/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary

Application No.

10/596,019

Applicant(s)

NISHIOKA ET AL.

Examiner

SEAN P. GRAMLING

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/12/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. Claims 1-16 are pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-4** are rejected under 35 U.S.C. 102(e) as being anticipated by *Park et al* (US 2005/0280014).
4. Regarding claim 1, Park discloses a light emitting device using an LED chip 102 comprising a mounting substrate 110 having a recess 124 and having a wiring portion that supplies electric power to the LED chip, the LED chip being mounted on a bottom of the recess; a wavelength converting member 126 disposed so as to cover the recess and an edge area 126a around the recess and that is excited by light emitted from the LED chip to emit light of a wavelength different from an excitation wavelength; and an emission control member 130 provided at a light output side of the wavelength

converting member so as to allow emission of light coming from an area of the wavelength converting member that corresponds to the recess and to prevent emission of light coming from an area of the wavelength converting member that corresponds to the edge area around the recess (see Figures 2-9 and paragraphs [0041]-[0077]).

5. Regarding claim 2, the emission control member 130 in Park comprises an optical member 132 disposed at the light output side of the wavelength converting member and having a light input portion facing the light output side of the wavelength converting member, the light input portion of the optical member having an end substantially the same shape as the open end of the recess (see at least Figure 2).

6. Regarding claim 3, the emission control member 103 in Park comprises a light blocking frame member (collectively 134, 136, 138) disposed on the light output side of the wavelength converting member at a location corresponding to the edge area around the recess, the light blocking frame member having an opening of substantially the same shape as the opening of the recess (see Figures 2-5).

7. Regarding claim 4, the wavelength converting member 126 comprises a material of a high elasticity, an outer edge area 126a of the wavelength converting member being compressed by the light blocking frame member pressed against the wavelength converting member (see Figure 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-2 and 5-16** are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Lowery* (US 6,504,301).

10. Regarding claim 1, Lowery discloses a light emitting device using an LED chip 22 comprising a mounting substrate 30 having a recess (region 50) and having a wiring portion that supplies electric power to the LED chip; the LED chip being mounted on a bottom of the recess; a wavelength converting member 52 that is disposed so as to cover the recess and an edge area around the recess (Examiner designates the edge area around the recess 50 as the area of element 32 that directly supports the wavelength converting member 52, see Figure 2) and that is excited by light emitted from the LED chip to emit light of a wavelength different from an excitation wavelength; and an emission control member 54 provided at a light output side of the wavelength converting member so as to allow emission of light coming from an area of the wavelength converting member that corresponds to the recess (see Figure 2 and column 4, line 30 through column 6, line 60). Emission control member 54 rests directly over at least a portion of the edge area around the recess (see Figure 2 and column 6, lines 54-57), but Lowery does not specifically teach that the entire area of the wavelength converting member 52 that corresponds to the edge area of the recess prevent emission of light. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the emission control member 54 with a slightly smaller circumference and prevent light emission in the area of the

wavelength converting member 52 that corresponds to the edge area around the recess to more uniformly direct light through emission control member 54, and since it has been held that lacking any criticality, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art (*In re Dailey*, 149 USPQ 47).

11. Regarding claim 2, the emission control member 54 in Lowery comprises an optical member that is disposed at the light output side of the wavelength converting member 52 and has a light input portion facing the light output side of the wavelength converting member 52 and the light input portion of the optical member having an end of substantially the same shape as the open end of the recess (see Figures 2 and 3 and column 6, lines 54-60).

12. Regarding claim 5, the light output side of the wavelength converting member 52 in Lowery is convex (see Figure 5).

13. Regarding claim 6, Lowery does not specify that the density of the wavelength converting material in the wavelength converting member 52 increase toward the center. However, it has been held that lacking any criticality, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art (*In re Dailey*, 149 USPQ 47).

14. Regarding claim 7, the emission control member 54 in Lowery comprises a lens disposed over the mounting substrate 36 to have an optical axis coinciding with an optical axis of the LED chip, and a wiring board 30 having a wiring portion 48 that is fixed to the mounting substrate so as to supply electric power to the LED chip 22; and a

lens holder (32, 34) for positioning and fixing the lens on the wiring board, wherein a portion of the lens holder is located inside as compared with the outer diameter of the lens 54 (see Figures 2 and 3, and column 4, lines 30-35).

15. Regarding claim 8, the lens holder (32, 34) in Lowery is tapered toward the mounting substrate (see Figure 2).

16. Regarding claim 9, the lens 54 in Lowery comprises a hybrid lens (see Figure 2).

17. Regarding claim 10, one of a top face and a side face of the mounting substrate 30 in Lowery is fitted to the lens holder (32, 34) (see Figure 2).

18. Regarding claims 11-14, Lowery discloses a protrusion (32) formed on the under surface of the lens holder, a lead electrode 44 provided on the mounting substrate to be connected to the wiring portion 48 of the wiring board 30 and a wiring land 46 that has substantially the same shape as the lead electrode 44 and that is formed on the wiring portion of the wiring board (see Figures 2 and 3), but does not specify that the lens holder (32,34) and the mounting substrate be engaged in either grooves or through holes formed on the wiring board 30. Lowery also does not disclose a metal foil around the fixed portion (32) of the lens holder for soldering. It would have been obvious to one of ordinary skill in the art at the time the invention was made solder the fixed portion 32 to the wiring board 30 and form a groove in the wiring board 30 in order to properly position the lens holder (32, 34) and mounting substrate on the wiring board 30.

19. Regarding claim 15, the light emitting device in Lowery further comprises a light extraction increasing portion 50 provided on the light output side of the LED chip 22 to increase the efficiency of extraction of light from the LED chip by being combined with

the LED chip and a sealing resin 50 that fills the recess in the mounting substrate where the LED chip is mounted so as to seal the recess, wherein a top of the light extraction increasing portion located higher than a top of a wall of the recess (see Figure 2 and column 5, lines 27-65).

20. Regarding claim 16, the mounting substrate in Lowery has a second recess 38 around the recess so that the resin can flow into the second recess (see Figure 2).

Response to Arguments

21. Applicant's arguments filed January 12, 2009 with respect to the rejections of the claims in the previous Office Action have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made against claims 1-4 in view of *Park* and against claims 1-2 and 5-16 in view of a new interpretation of *Lowery* as set forth above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN P. GRAMLING whose telephone number is (571)272-9082. The examiner can normally be reached on MONDAY-FRIDAY 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sean P Gramling
Examiner
Art Unit 2875

/SPG/

/Sharon E. Payne/
Primary Examiner, Art Unit 2875